

BASF Aktiengesellschaft

January 29, 2001

NAE19980638US IB/HKE/cd

We claim:

5

1. Catalyst packing for a reactor having one or more course(s) which completely fill the reactor cross section, comprising a plurality of stacked layers of a fabricated woven or knitted fabric in the form of continuous web goods, wherein the layers are arranged perpendicular to the principal flow direction in the reactor, and a course is formed from at least three segments (S).

10

2. Catalyst packing as claimed in claim 1, wherein segments (S) adjacent to one another in each case at their rectangular faces are arranged symmetrically to one another with respect to the rectangular face.

15

3. A process for the production of catalyst packing as claimed in claim 1, in which a fabricated woven or knitted fabric in the form of continuous web goods is shaped to give a package by stacking a plurality of layers thereof one on top of the other, which comprises cutting segments (S) out of the package and assembling them to give one or more course(s) which completely fill the reactor cross section.

20

4. A process as claimed in claim 3, wherein respective stacked layers in a package are rotated by 180° to one another.

25

5. A process as claimed in claim 3, wherein the following sequence of cuts is used to separate the segments (S) from the package:

- a) a first segment (S) with a length equal to twice the reactor radius or a first pair of segments with a length equal to the reactor radius for placing in the center of the reactor cross section is removed by rectangular cuts,
- b) two further pairs of segments each with length  $2 \cdot l_1$ , where

30

$$l_1 = \sqrt{r^2 - x^2} .$$

- 2 -

where  $r$  = reactor internal radius and  $x$  = web width of the package,  
are removed by rectangular cuts and are subsequently divided into in  
each case two geometrically identical segments (S) by an inclined cut  
along the tangents at the reactor interior circle at a point  $T_1$  which is at a  
distance  $x$  from the longitudinal axis of the first segment (S), for placing  
on both sides of the first, central segment (S), and

- c) if desired, further pairs of segments are removed, in each case in double  
the number corresponding to the cut sequence in b), with a length  $2 \cdot l_i$ ,  
where  $i$  = natural number,  $i \geq 2$ , where

$$l_i = \sqrt{r^2 - i \cdot x^2}$$

and where the point  $T_i$  at which the tangent to the reactor interior circle  
is placed is in each case at a distance of  $i$  times  $x$  from the longitudinal  
axis of the first, central segment (S), and

- d) in order to fill the two edge gaps, segments (S) are removed from the  
package analogously to a), b) and c), but for insertion rotated by an angle  
of  $90^\circ$  to the segments (S) already inserted.

6. A process as claimed in claim 3, wherein continuous web goods having a  
width of from 50 to 500 mm, preferably from 100 to 300 mm, are employed.
7. A process as claimed in claim 3, wherein a package having a thickness of  
from 40 to 400 mm, preferably from 100 to 250 mm, is produced by stacking  
the continuous web goods.
8. A process as claimed in claim 3, wherein one or more grille(s), which are  
preferably connected to one another and/or to the reactor internal wall, is  
(are) arranged in the reactor for accommodating the course(s).
9. A process as claimed in claim 8, wherein from 1 to 6, in particular 2 to 4,  
course(s) is (are) arranged on a grille.

- 3 -

10. A process as claimed in claim 3, wherein the segments (S) arranged one on top of the other in the reactor longitudinal direction in two successive courses are in each case arranged rotated with respect to one another, in particular rotated by an angle of  $45^\circ$ .

5

11. The method of use of catalyst packing produced as claimed in claim 3 for a reactor for catalytic reactions, in particular for hydrogenations, selective hydrogenations, selective oxidations or isomerizations.

102020 543460